



Communicator

April 2014

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SEPARS Report

QRM

News You Can Lose

and Much More!



*Ready To Chase
That Fox?*

The April 2014 Newsletter of the Surrey Amateur Radio Club

Next General Meeting April 12th



The Communicator



**SURREY
AMATEUR RADIO CLUB**

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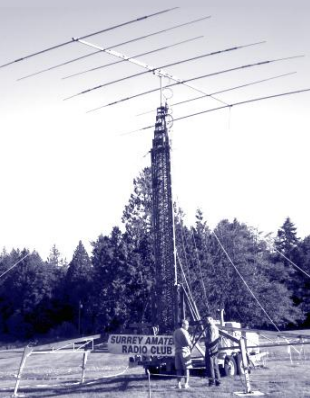
Nelson Eisel VE7NAE

VIA THE WEB

www.ve7sar.net

The SARC Communicator is published monthly except August for members of the Surrey Amateur Radio Club.

SARC maintains a website at www.ve7sar.net that includes club history, meetings, news and other information.



March Monthly Meeting Minutes

March 12, 2014

Introductions & Announcements

President John VA7XB opened the meeting at 7 pm and welcomed Ron Casey VE7VTA of SEPARS, visitor Zenon Canonicato VE7ZCC and LARA members John VE7EEX, Al Munnik VA7MP, Don Dangelmaier VA7AB.

John reported that the recent CPR course was attended by 28 members and spouses, with all participants generally agreed that it was a worthwhile event.

Members were reminded of the upcoming AGM in June and asked to consider running for a Director position.

Bob Heil is not available as planned for the April meeting podcast, so an alternative program will be organized between now and then.

SARC's annual Foxhunt & BBQ will be held on May 10th at Crescent Park in South Surrey and in this regard it was suggested that members start getting their Foxhunt gear in working order.

LARA is currently finalizing prizes for the annual raffle so that tickets may be distributed by next meeting; at the Langley Cruise-in, in September, SARC/SEPARS/LARA will assist with radio communications, provide information to the public and sell raffle tickets from several booths throughout the City of Langley.

Committee Reports

Financial

Scott VE7HA reported expenditures since last meeting and the status of our two accounts. Scott indicated that PayPal appears to be working well with no problems reported. The

CLUB EXECUTIVE 2013-2014

PRESIDENT

John Brodie VA7XB

VICE PRESIDENT

Brett Garrett VE7GM

SECRETARY

Rob Gilchrist VE7CZV
(also Net Manager)

TREASURER

Scott Hawrelak VE7HA

DIRECTORS

John Schouten VE7TI
(Communicator Editor)

George Merchant
VE7QH (Repeaters)

Bill Little VA7ZBL
(Membership)

Bill Gipps VE7XS

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Last Meeting

Lessons Learned

Radio-Active

Alex Danese IZ7FMM/VE7

Tech

A Slice Of Pi
Build a Foxy 2m Quad
A Repeater Experiment

Plus...

Contest Contender
SEPAR Report
QRM
News You Can Lose
RAC News
April SARC Calendar

	SEPARS Net	SARC Net
1 st Tuesday	Drew VA7DRW Jay VE7OFH Standby	Brett Garrett VE7GM
2 nd Tuesday	Dixie VA7DIX Alan VA7BIT Standby	Jinty VA7JMR
3 rd Tuesday	Rob VE7CZV	Anton VE7SSD
4 th Tuesday	Peter VE7PGX Dixie VA7DIX Standby	John VA7XB
5 th Tuesday	Jinty VA7JMR	Elizabeth VE7ELA
Want a turn at Net Control? Contact the SARC Net Manager VE7CZV @ separs.net		

SARC hosts an Amateur Radio net each Tuesday evening at 8 PM. Please tune in to the VE7RSC repeater at 147.360 MHz (+600 KHz) Tone=110.9, also accessible on IRLP node 1736 and Echolink node 496228. On UHF we operate a repeater on 443.775MHz (+5Mhz) Tone=110.9 and EchoLink Node 1737

latest 3 memberships were received via Paypal.

Membership

In the absence of membership chairman, Bill VA7ZBL, John VA7XB reported that the current roster stands at 77 plus 3 new members just signed up. He also stated that it was an Executive decision that membership fees be waived for those joining between March 1st and the end of the fiscal year, May 31st.

Repeater

George VE7QH reported that both VHF and UHF repeaters are working well.

Communicator

John VE7TI encouraged members to submit material for publication in the Communicator. One of the visitors asked about distribution of the Communicator and was advised that receiving the Communicator is a benefit of membership, but that those receiving it are free to forward to others.

Website

Hiu VE7YXG reported no issues with the website.

Net

Rob VE7CZV asked that members who would like to take net control for one day a month should please advise him.

Equipment

John VA7XB stated that the club has several HF radios and beam antennas which are not in use and are available for loan to members wishing to become active on HF. Rick VE7GMO promised to complete repairs to the trailer wiring asap.

Operator Training

Brett VE7GM summarized training activities for the month of March: BARTG RTTY and

WPX SSB. Howard Ticzon VA7HTZ and Sheldon Ward VA7XNL indicated they would like to join the operator training group.

Field Day

Brett thanked Jinty VA7JMR for volunteering to be GOTA station manager and then ran over the list of organizational tasks for which volunteers are needed:

Needed Now: Bonus Points Manager and Manager for a HF Radio Station for non-competitive operators

Needed Soon: Internet & Networking, Food Manager, Educational Activity Leader, Free VHF Station, Media Publicity, Public Information Table and Youth Participation.

John VE7TI volunteered to take responsibility for Media Publicity.

New Business - none

Presentation

After a coffee break, Mike Andrews, Emergency Planning Officer for the North Shore Emergency Management Office (NSEMO), gave a stimulating talk titled "Hard Lessons in Emergency Management" wherein he described some disaster scenarios around British Columbia and discussed what could be learned to improve future responses. Mike was thanked for his excellent presentation.

The 50/50 was won by Al Munnik VA7MP, following which the meeting was adjourned at 9 pm.

Expecting QSL Cards?

Are you expecting QSL cards via the incoming bureau? If so, and you are a regular attendee at the Friday morning SARC breakfast you can pick them up there.

Alternatively if you may arrange to collect them at SARC monthly meetings. All you have to do is advise QSL Bureau Manager, Ken Clarke VE7BC, that one or the other is your choice of pickup location. Ken can be reached at:

kenjclarke@shaw.ca or ve7bc@gmail.com

DOWN THE LOG...

SARC Monthly Meetings

2nd Wednesday (Sept-Jun)
1900 hrs local at the Emergency Management BC PREOC,
14275 96th Avenue, Surrey, BC

Weekly Club Breakfast

Friday at 0800 local
Kalmar Family Restaurant at
King George Blvd. & 81st Avenue
Surrey

SARC Net

Tuesday at 2000 hrs local
on 147.360 MHz (+) Tone=110.9

SEPARS Net

Tuesday at 19:30 hrs local
on 147.360 MHz (+) Tone=110.9

Announcements & News

SEPARS Monthly Workshop
Third Thursday, 1900-2130 local
14923-64th Ave, next to Firehall
#9, Surrey.

SEPARS Training

Fourth Saturday, 0830 local,
Firehall #1, 88 & 132nd Street,
Surrey

On the Web

ve7sar.net

Between newsletters, watch your e-mail for announcements of events, monthly meetings and training opportunities. These announcements can also be found on our web page, or via:

Twitter

[@ve7sar](https://twitter.com/ve7sar)

Photos
Web Albums

Next Meeting...

A Variety of Topics



You won't want to miss our next meeting. The April meeting was planned some time ago to feature a live podcast by Bob Heil discussing microphones and related audio quality issues however, Bob recently advised he is travelling that date. We have arranged a variety of topics as follows:

Spider Beam Antennas

Alex Danese, our recent arrival from Italy has had great success with spiderbeam antennas. Alex is profiled on page 10 and 11.

Knots

In the past several issues of the Communicator we have featured a series of knots useful in everyday life, but especially useful in Amateur Radio for tying off lines and stringing antennas. There will be a series of knots illustrated with hands-on experience. We'll provide you with enough rope to try them out.

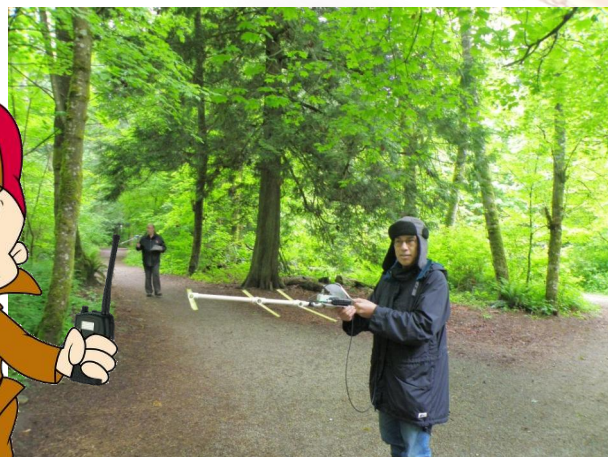
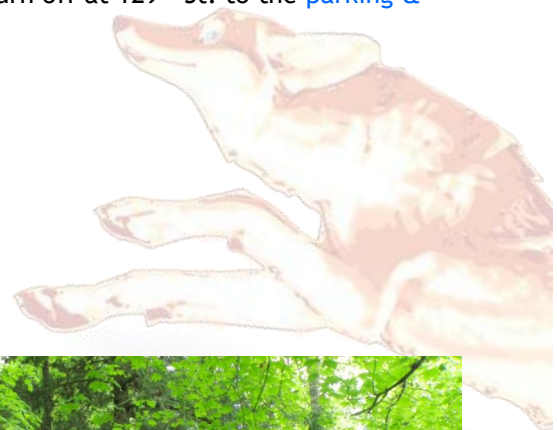
2014 SARC RDF Foxhunt

Saturday May 10, 2014 at Crescent Park, South Surrey. Registration, Pre-hunt coaching and Instructions 0800 - 0930. The foxhunt commences at 0930 with a barbeque at 1230.

To participate, you need a 2 m handheld radio, however, if you are a beginner, or don't have a radio, then come anyhow! You can be part of a more experienced team or we may have some spare equipment that you can use. Talk-in frequency is 147.360+ (110.9 tone). The use of 80 m ARDF equipment will also be demonstrated.

FOXHUNT NO CHARGE - BARBEQUE \$10

All are welcome, but we ask that you RSVP Anton James VE7SSD jamesadf@shaw.ca and indicate if you plan to attend the foxhunt, BBQ or both. To get there, take Crescent Rd. west from King George Highway near Hwy 99, and turn off at 129th St. to the [parking & assembly area](#).



...Last Meeting

Hard Lessons In Emergency Management

Feb. 12th Meeting

At SARC's February meeting, Mike Andrews, Emergency Planner for North Vancouver, and former PEP-BC Southwest Regional Manager, presented a number of scenarios that he faced in his position with PEP.



Mike used photos, video and entertaining personal glimpses into the challenges of dealing with major incidents, frequently having to complete the task despite the sensitivities around the media and politicians.

One interesting sidelight was the role played by social media, a resource now used by many agencies. Their posts often result in more timely information than received via traditional means. The websites are:

Ushahidi <http://ushahidi.com/>

AIS <https://www.marinetraffic.com/en/> and

Trendsmap <http://trendsmap.com/>





The Contest Contender

John Brodie VA7XB

The Joy Of DX

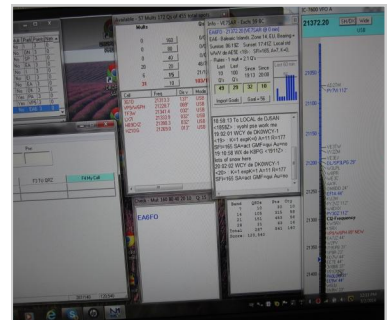
It is 0000 hr March 1st and time for the ARRL DX SSB contest to begin. This being a club effort, we are using the callsign VE7SAR. The ARRL DX is strictly for VE and W/K stations to work the rest of the world and vice-versa, therefore contacts between North American stations do not count; the exceptions are that Mexico, Alaska, Hawaii and Puerto Rico are considered to be DX for the purposes of this contest. For the exchange, VEs and W/Ks send 59 plus their province or state and the DX stations send 59 followed by their transmitter power. Before the contest starts we have used audio software for recording of voice macros to assist with calling CQ and responding with exchange, etc. N1MM has also been configured to transmit the macros using function keys - over the course of many hours, the use of voice macros will save you from becoming hoarse.



At the start of the contest on late Friday afternoon, propagation favours the Caribbean and South America, with a few Japanese, Russian and South Pacific stations being heard. Not being a night-owl, I pack it in early, after making a few dozen Qs during the evening - nothing spectacular. I turn on the radio around 8 am on Saturday morning and after orienting the beam west, find that 20m is open with strong signals from Indonesia and Malaya. In quick succession, I log contacts with HS5NMF (Thailand),

9M6SDX (Borneo) and YE1NZ (Java). Shortly thereafter, on 15m with the beam pointed to the north or northeast, I work 9A5W (Croatia), FR4NT (Reunion Is, east of Madagascar), CN2AA (Morocco), CQ8X (Azores) and EE8T (Canary Is) along with many garden-variety European stations. By mid morning, Italy and Southern Europe are coming in well with most of the action on 15m for the rest of the day. Europeans continue to dominate, but the exhilarating highlights in the afternoon are 9L1A (Sierra Leone), ZR9C (South Africa) and OD5ZZ (Lebanon). A few more Qs on Saturday evening as 20 m starts to die before an early bed-time.

Alex IZ7FMM joins the action on Sunday morning and continues to knock off the DX at a fast rate, strictly search & pounce. Conveniently, Italian stations are coming in strongly all morning, and Alex enjoys responding to the home crowd in his native language. The Spanish stations get the same treatment, as Alex is fairly fluent in this language also. He is able to make himself heard by 3V8BB (Tunisia) around 1000 hr local time. Alex tries running for a while, but without a lot of success, so back we go to search & pounce, which seems to be more effective for this contest. We quit around noon, giving way to other pressing family commitments. On the next page are photos of some of the 290 stations worked during the approximately total 8 of the 48 hours available. I should note that this was the first time we had used the KW amplifier together with the 3-el SteppIR beam at this station and it does make a difference! About 90% of the DX stations run a Kw, however a few 100 watt stations were making themselves heard. The ARRL DX qualifies as one of the most fun contests in my opinion, as the DX can be found with a minimum of North American QRM. So, "when's the next one?", you ask. The CQ WW WPX (SSB) is coming up at the end of March. This will be one of the last SSB opportunities before Field Day, so contesters and operator trainees won't want to miss it.





There is no doubt that working DX has the benefit of exchanging QSL cards. You can be the recipient of some very striking images.

Take On The RaDAR Challenge

Are you ready for an exciting amateur radio challenge, do-able on a handheld?

Deploy as a portable station, make five contacts, walk one kilometre, deploy again and make five contacts. Continue for the four hour period. You could do the same moving three kilometers via car, motorcycle, bicycle or other vehicle.

You have entered the world of rapid deployment amateur radio aka RaDAR. You will enjoy making trade offs in radio, antennas, and choice of operating frequencies.

The four hour period puts you under a little stress to manage all the factors in real time.

Hams worldwide practice radar any time they can but there is the four hour radar contest the first Saturday of April and November. The next radar contest is 5 April 14:00 UTC to 18:00 UTC.

In addition to on foot and vehicle categories, there are also portable and at home categories. Each category has a multiplier. Power is your choice,

QRP and up with multipliers. All amateur bands, besides the WARC bands, are allowed including cross band contacts via amateur radio satellites.

Modes - CW, SSB, AM, FM or any digital mode. QSOs via terrestrial repeaters will not be allowed. Call sign, name, rs(t) report, QTH and grid locator at least 6 characters and 10 preferred. There is a bonus for your first satellite or digital mode QSO. Also there is a bonus for your first RaDAR to RaDAR intercontinental QSO.

Full details can be found in the SARL contest manual available at URL: www.sarl.org.za.



More Contest Contender

Fred Orsetti VE7IO

The BARTG RTTY Contest

The BARTG contest, for those who do not know, is an RTTY contest sponsored by the British Amateur Radio Teledata Group (BARTG). The contest period was from 7:00pm local time Friday to 7:00pm local time Sunday, 48 hours, we operated Multi Mluti M/M for 36.5 hours.

We ran two radios both running about 900 watts each using N1MM logger all networked to a Master computer. The function of the master computer is to provide propagation information, plot our score compared to last year on a graph and to allow the station manager to check sites that collect real time scores.

It was fun to watch as we competed with an Italian station, I can't remember the call, for top spot and see us pass them on the scoreboard.

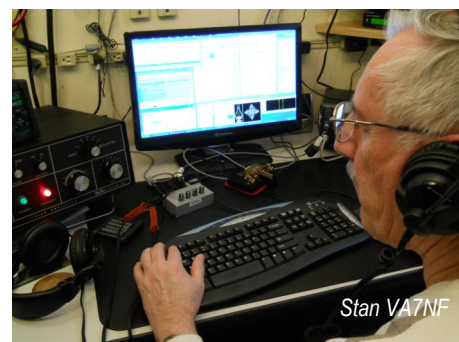
Band	QSOs	Pts	DXC	Are	Con
3.5	63	63	3	14	0
7	157	157	17	23	1
14	364	364	42	24	4
21	606	606	60	27	2
28	344	344	47	25	0
Total	1534	1534	169	113	7

Score : **3,028,116**

On Sunday around noon the amp on station 2 got exhausted and withdrew its services so we had to finish the contest with 100 watts on that radio. The amp has since been repaired and is ready for the CQ WW WPX SSB contest on March 29th. Our best band was 15 meters with over 600 Q's next was 20 meters with 364 and 10 meters with 344.

Notice that we worked 169 countries and 7 continents over the contest period, not bad Huh?

The contest team consisted of- VE7CHX, VA7NF, VE7CDC, VE7KKG, VE7NAE, VE7SSD, VE7TI, VE7XEN and VE7IO.



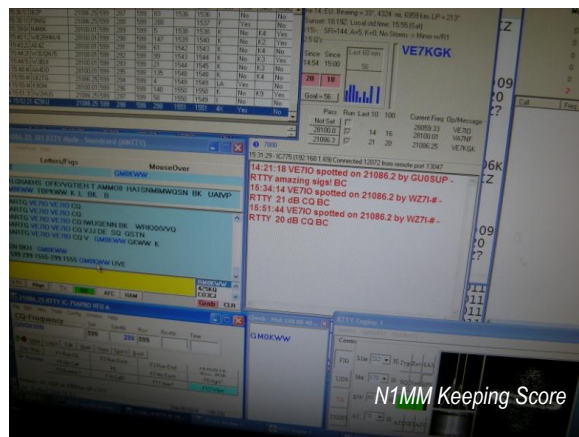
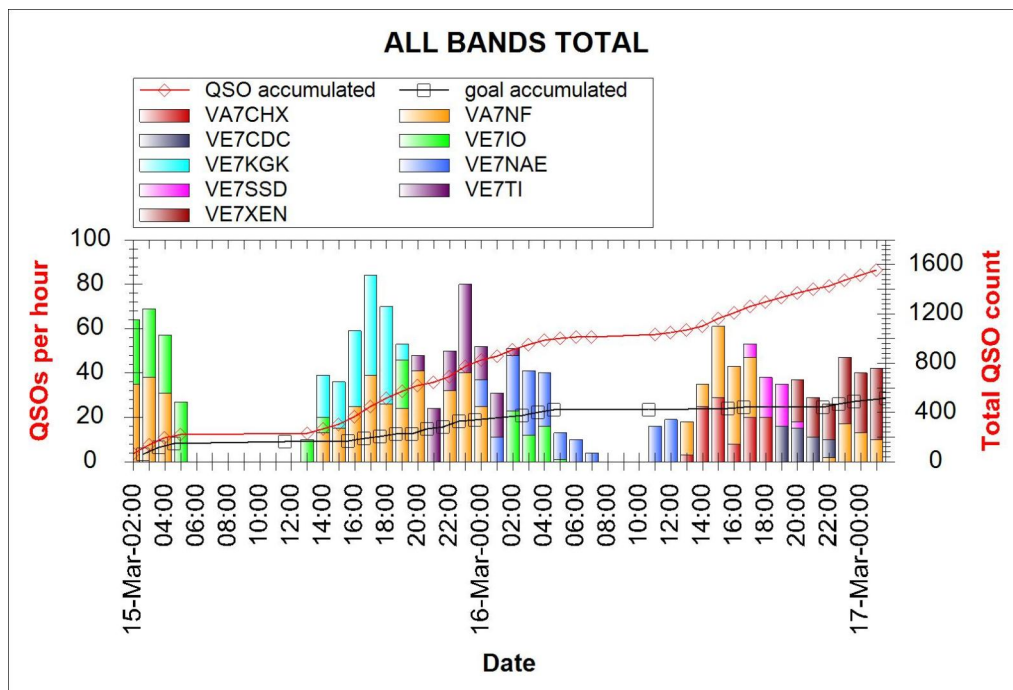
They say a picture is worth a thousand words and this is certainly true of the above chart. You can see QSO rates over 80/hr for sustained periods with many more hours at 60/hr. This team did a super job

Missing photos of VE7SSD, VE7NAE and VE7CDC my apologizes to these skilled ops.

The final submitted score of 3,028,116 will most certainly be reduced when the log is checked but none the less this is a great score and the entire team did an outstanding job.

It was a difficult schedule there were early morning hours as well as some late night operation but everyone was on time and operated for their full shift.

It was certainly my pleasure to host this event and thanks to everyone who participated.



It was an exciting contest with enough activity to keep each operator happy. On behalf of the visiting ops, I'd like to thank Fred for his hospitality and willingness to share his shack and his wealth of knowledge. —Ed



Right: Meanwhile, at VA7XB, new operator trainee Sheldon Ward VA7XNS is working the BARTG RTTY contest also and is pleased to have worked HZ1PS (Saudi Arabia).



Radio-Active

Jinty Reid VA7JMR

Introducing Alessandro 'Alex' Danese IZ7FMM/VE7

Alessandro, or "Alex," hails from the seaside town of Taranto in sunny southern Italy. He immigrated to Canada in September of 2013 and now lives in Surrey. He has one sister, Aurora, who lives in Italy. As a teenager, Alex participated in Karate, swimming, and motor cycling. He still has 2 motorbikes which he has had to leave behind at his Italian home.

Alex initially studied at art school before attending university in northern Italy and graduated in architecture. He obtained high marks for his car design and special mention in an architectural magazine for a design project.



After graduating from university Alex worked as an architect designing the exterior and interior of houses. Alex has a passion for free hand sketching and general design and drawing in many mediums. Due to the poor economy in Italy which prevents new building, architectural work is hard to find which has brought Alex to Canada. He hopes to find work in his field once he has Permanent Residency.



He met and fell in love with Simona in Taranto, Italy. Simona is Canadian, born in Toronto; however, she is from Italian parentage and is presently in Italy but will be returning in April to Canada. The couple married in Canada in October 2013. Simona is an accountant.



From as young as 9 years of age Alex had an interest in radios starting with a "walkie talkie" and when he was 13, a CB radio. When he was 16 years old he developed an interest in the technical side of radios and at present he is free lancing fixing radios. He obtained his Ham Radio license in VHF in 1993 in Italy and his HF License in 2003 as this required a proficiency in CW. His first ham radio was a hand held VHF Yaesu FT 23 and Alex also has an HF Kenwood TS 140. Most of his radio equipment is still in Italy. Alex joined SARC in January 2014. He enjoys contesting and building antennas.

In addition to Italian, Alex speaks English, Spanish, as well as a little Rumanian and French. He has a Breton hunting dog (similar to a cocker Spaniel), named Jenny, whom he misses a lot. At present Jenny lives with Alex's mother in Italy but Alex hopes to eventually have her join him in Canada. In the future Alex hopes to move into a bigger home with a yard where he can have a proper antenna, house his radios and have space for his dog to run around. He dreams of one day having an Italian Restaurant & Pizzeria, building on his experience as a student at university when he worked part-time as a chef's assistant. Alex describes himself as having a good sense of humour, being sociable, sensible and as having a talent for mimicking. Welcome Alex, to Canada and to SARC. There is no doubt that Alex will be a great asset to the radio community.

(see also page 11)





A Repeater Experiment

Rob Gilchrist VE7CZV

Talking All Over The World With Your HT

With a little help from VE7RSC

The SARC Executive made a decision to try to encourage greater use of our repeater and provide a 'DX-like' experience for members without HF capability. We will connect to several networks on an experimental basis over the next few weeks, including the [WIN System](#) which carries IRLP traffic worldwide.

This is just a quick reminder, that by using the connections available via IRLP and ECHOLINK, (which are available on the club's repeater VE7RSC) it is possible to make contacts around the world.

This startling new "innovation" will start to happen, as we open up various connections in an effort to encourage use of our VHF/UHF repeaters. Don't worry if you happen to misplace this article, all of the access information, is available on the club's website. This article is not designed to be a complete how-to for those wanting to use IRLP/ECHOLINK. I am just going to talk about a couple of points.

1. If you hear stations on the repeater from other places, just treat it like you would with any other local station. Listen and join in the fun, if you are so inclined. Remember, that when any machine is connected to another machine you must share the frequency. This means you need to wait as you would normally do if the frequency is in use, to enter a conversation (QSO). Once you have the chance, identify, join in and enjoy.

2. When machines are connected together (not all connections are actual repeaters), you cannot expect to get back-to-back contacts, as you might expect on HF. On HF all other stations need to do is move off frequency, and go find another station, or call another station, if they want to get their own list of contacts. On VHF/UHF the other stations can't do that, especially if they are using a connected repeater. You have to be patient, and get your contacts one-at-a-time.

3. If you want or need to disconnect the repeater from any connections. Key your mic and send the tones '7 3' then un-key. After the repeater identifies that the link has been terminated, you can identify.

This appears to fly-in-the face of normal ham protocol, so here is the rationale. Your repeater will identify locally that you have disconnected. Since some ECHOLINK/IRLP connections can be made with multiple repeaters, no system wide identifications occur on the repeaters that are losing your connection. If this didn't occur in this way, the systems would be full of competing identifications when parts of the connected system changed status. If you have just entered the system, by turning on your radio, or even if you have been listening for some time, you can't tell exactly which "nodes" are connected. It is therefore best to use this protocol for disconnecting if you are not currently part of the present conversation, but you need to use the our repeater for a one-on-one contact or the weekly Nets.

A Bit More About Alex

In getting to know new SARC member Alex Danese IZ7FMM recently arrived from Italy, I soon became aware that Alex has some impressive talents. First thing I found out when I invited him to participate in the ARRL International DX Contest is that Alex is a skilled contest operator who is capable of making SSB contacts at a furious rate - in several different languages! After I described this experience to Jim VE7FO, Jim offered him the opportunity to travel with him to Courtenay on Vancouver Island and join the VE7UF team in the CQ WW WPX contest. Despite never having done RTTY using N1MM logging, Alex mastered the techniques very quickly and made a big contribution to the team effort. Back home again, he constructed a 10m spider beam and - amazingly - convinced his landlord that he should be allowed to install it on a 10m pole in the tiny back yard of his rented premises. Shortly Alex plans to add 15 and 20m dipoles to his spiderbeam.

Then I found out that Alex has been repairing radios and other electronic devices for his neighbours. He does this using only the most basic of test equipment, as all the sophisticated gear

has been left behind in Italy until he gets established in Canada. Now, a Yaesu FT757 transceiver was recently donated to the club by Kjeld VE7GP, for use by a member who would like to become active on HF. Kjeld had mentioned that the transceiver may not be fully working, so I asked Alex if he would have a look, test it and repair if necessary. Within a few days, Alex reported that after he gave it a thorough cleaning and testing, the radio lacked power in some modes, drifted badly and had poor audio. After he installed a new relay, replaced some diodes and electrolytic capacitors, installed a thermally controlled oscillator, and changed out a couple of crystals the radio is now reported to be fully functioning. The radio will be loaned out to one of our members who specifically wanted to try out this radio. We owe a big thank you to Alex for taking on a job that would be daunting for most of us.

SARC would like to help Alex to pursue his talents and get on his feet in Canada. Do you have a radio that needs fixing? If so, why not see what Alex can do with it in exchange for a small donation. Do you have an oscilloscope or signal generator that you could donate to Alex? You can get in touch with Alex at: iz7fmm@yahoo.it



QRM

...from the Editor's shack

*Do you have a photo or bit of club news to share?
An Interesting link?
Something to sell or something you are looking for?
Email it to SARCcommunicator@outlook.com for inclusion in this column.*

Alberta Flood Presentation

The North Shore Amateur Radio Club (NSARC) and the North Shore Emergency Management Office (NSEMO) are pleased to announce that Vince d'Eon, VE6LK, will be giving a presentation on Emergency Communications during the 2013 High River Alberta Floods.

"We had a team that exceeded 50 Radio Amateurs working around the clock delivering almost 700 hours of effort in providing a critical service - communications - when an entire town needed us the most."

This will take place 7 PM May 1, 2014 at the North Shore Emergency Management Office,

Gerry Brewer Building
2nd floor - 147 E. 14th Street,
North Vancouver, B.C.
Canada V7L 2N4

Please R.S.V.P. to NSEMO at nsemo@cnv.org. Seats allocated on a first come first serve basis. There are 25 seats available for members of other organizations that may wish to attend. Please state your organization when you RSVP.

NSARC will arrange for live streaming of the presentation, over the BCWARN network, a limited time Web recording as well as DVD recordings for those who wish to view the presentation at a later time.

Vince is the ARES AEC for the Foothills Amateur Radio Club. He has been licensed since 2002, is active in HF mobile and doing community service events / ARES call-outs.

For background information see "The Canadian Amateur" Sep/Oct 2013 or <http://www.vincedeon.com/amateur-radio/how-field-day-became-a-reality-the-story-of-the-high-river-flood-of-2013/>

For further information contact Keith Witney, VE7KW president@nsarc.ca

Maple Ridge Amateur Radio Club Swap Meet

The Maple Ridge Amateur Radio Club proudly presents

The Fraser Valley's Largest Ham Radio, Computer and Electronics Swapmeet

Sunday, 04 May 2014
9AM - 1PM

Admission \$5!

Heritage Hall, 12460 Harris Road
Pitt Meadows, BC

For Sale

Icom IC-PCR1500 Software Defined Receiver, as pictured below. AM/FM/SSB and more, covers 0.010-3299.999 MHz. Requires a Windows computer. More specs and details at <http://goo.gl/W88hAQ>. Great reviews on [eHam](http://www.eHam.com). MSRP \$499 offered at \$325. Selling this for a friend up north, contact John via email ve7ti@separs.net



Basic Amateur Radio Course

The Delta Amateur Radio Society's Basic Amateur Radio Course will be starting on Tuesday, April 1. Course fee is \$65 with an early bird special of \$50 till April 23, 2014. All details about the course and how to register can be found at: <http://deltaamateurradio.com/>



Page 13—News You Can Lose

The Lighter Side of Amateur Radio

Teachers Demand Mercury Cleanup

Educators claim spills at Mount Baker Secondary endanger staff, pupils

Elaine O'Connor
The Province

Cranbrook teachers are demanding that the school district clean up mercury spills at Mount Baker Secondary, which they say endanger staff and student health.

Sixty Cranbrook teachers and CUPE workers have filed Workers Compensation Board complaints since the discovery of a broken barometer and spilled mercury in a chemical storage closet in the summer



The story above caught my eye...

I grew up in the fifties and sixties and we collected broken thermometers to reclaim the mercury inside which, at the time was often called 'quicksilver'. It made a wonderful plaything and I can remember having a pill bottle half-filled at one time. It would conduct electricity, you could splash it around in the palm of your hand, make small droplets, then gather it all up into a big glob again. I probably didn't wash my hands after playing with it either.

Research has shown it to be harmful but I seem to have survived without harm... or have I? - Ed

John Brodie VA7XB, a metallurgist, has some experience with mercury, we'll let him have the last word. He writes that the danger of mercury is not in the metal or alloyed form - note that it is safely used in tooth fillings as an amalgam with silver.

Mercury is used even today in third world countries by gold miners who want to recover fine gold particles from their pans; then they boil the mercury to allow the gold to separate - an extremely dangerous practice if ventilation is inadequate.

The hazard in the home arises when mercury is allowed to evaporate as it will eventually do when it is spilled and not cleaned up. Mercury vapour even at low concentrations if present in a poorly ventilated place is very harmful and can lead to neurological damage. A broken thermometer or thermostat switch using mercury is a common source of mercury vapour, and the beads of mercury should not be left on the floor.

E-Comm lists top-ten 9-1-1 nuisance calls

- 1 "I'd like to speak to someone about renting a fire truck to block off a street for a party."
- 2 A caller phoned 9-1-1 to get their date's contact information so they could confirm details of their plans.
- 3 A caller phoned 9-1-1 to report a missed newspaper delivery.
- 4 Caller asks 9-1-1 if they can get the 'OK' to drive in the HOV lane because "traffic is backed up and they are late for an important meeting."
- 5 Caller dials 9-1-1 to activate voicemail on his cellphone.
- 6 "I threw my phone into the garbage can and can't get it out."
- 7 Caller dials 9-1-1 to ask for a morning wake-up call.
- 8 Caller dials 9-1-1 to ask how to call the operator.
- 9 "Can an officer come over to tell my kids to go to bed?"
- 10 "My son won't give me the remote control."



SEPAR Report

Fred Orsetti VE7IO

The March Report



A reminder that the SEPAR AGM is coming up on April 28th. The location and time will follow.

There are three projects underway at this time, preparation for Field Day 2014 partnering with the Surrey ARC, two comprehensive monthly hands on message training and three preparation for the upcoming Doors Open event on Saturday June 21st.

Field Day 2014 will be held at Grandview Heights school site This is the same site as in past years. Stan, VA7NF and Ron VE7VTA, are the liaison people for SEPAR with SARC. At this time plans are to use the SEPAR trailer and one G&G kit. Operational details will be worked out over the next month or two.

Message Training

Peter Gauld reports that SEPAR has been conducting a series of exercises designed to prepare members for deployment in support of the Emergency Operations Centre (EOC) and Emergency Social Services (ESS). The final training session before the full scale exercise was conducted on March 22 at Fire Hall #10 where operators practiced set up and troubleshooting of the grab and go kits.

The success of this series of exercises is a testament to the operators' diligence and commitment and I am confident that SEPARS will perform their communications functions competently and professionally in an emergency or disaster. Kudos to everyone involved.

Doors Open

This event will be held on Saturday June 21st at the Surrey Central Library.

1. PRELIMINARY TESTING OF PROPAGATION FROM THE SITE: by May 1st
2. OVERALL SITE PLANNING: May 31st

SEPAR Meetings

Third Thursday of each month starting at 1900 hrs
Fourth Saturday of each month starting at 0900 hrs

Location and event schedule can be found at separ.shutterfly.com — click on the calendar tab

3. VOLUNTEERS: sign up at the AGM or the Shutter fly website (currently available)
4. TECHNICAL: this is radio placement, cable routing, radio testing and repeater access confirmation
5. EVENT DAY SETUP: all volunteers
6. COMMUNICATIONS USING THE HT RADIOS: setting up the program for HT communications
7. DIGITAL COMMUNICATIONS: RMS Express and/or D-Rats
8. RMS PACKET: this will be used as much as possible
9. BCWARN: provide internet access and linking to the EOC radio room
10. VIDEO DISPLAYS: these will be in the trailer for public display
11. PRINTED DISPLAYS: brochures, SEPAR stickers and poster board information to be located in the main library

The Physical Set Up

- Room 120 is reserved and April is pursuing sidewalk permissions for the Grab 'N Go immediately outside Rm 120
- Tables and chairs are available on site.
- Load in will be off University Drive where there is already a drop off/pick up point.
- Until further notice, there is free parking on the surface lot, Carolyn needs to know the pertinent licence plate numbers (but this may change). There is also paid parking below the plaza.
- Wireless access is available in the library and immediately surrounding the library if we are unable to connect to BCWARN
- Set up time @ 9AM can be arranged.

We are meeting with Carolyn on April 1st at which time we will get further details. You can sign up on-line for these and other SEPAR events at URL: <https://separ.shutterfly.com/signup>

All these events are very important to the promotion of SEPAR within the City and to prospective sponsors.

CPR / AED Course

About 30 members of SARC and SEPAR attended a basic CPR Course presented by trainers from the Surrey Fire Service. The course was very informative and participants quickly learned the skills to assist victims of cardiac arrest, choking and other medical emergencies.

SARC would like to thank the Surrey Fire Service for sponsoring this event and the instructors, Dillon and Curtis for their enjoyable presentation.



Preparedness Tip:

- Keep your Handheld transceiver charged at all times
- Keep a spare battery (or better yet, a battery holder for your radio that accepts AA cells)

Get a kit

There are two types of emergency supplies kits:

Personal kit: Three days of supplies for one person in a bag or backpack. Keep a kit at home, one in your car and one at work.

Family kit: Two weeks of supplies for the entire family in a sturdy container. Keep at home.

Most important supplies. Start with these items:

- **Water** – one gallon per person per day for a minimum of three days
- **Food** – items that don't need to be refrigerated or cooked
- **First aid kit** – include any prescription and over-the-counter medications

Additional supplies:

- Flashlight (battery or alternative-powered)
- Radio (battery or alternative-powered)
- Extra batteries
- Copies of important documents
- Family contact information
- Cash
- Pet supplies
- Hygiene items
- Multi-purpose tool and work gloves
- Comfort items, such as toys, games, family photos



Review your supplies every six months. Replace any items nearing expiration dates. Assemble your own kit or buy one at www.redcrossstore.org.

"By the bed" mini-kit:

Keep a sturdy pair of shoes, a flashlight and an extra pair of glasses (if you wear them) in a bag attached to the foot of your headboard. If an emergency strikes at night, you'll be able to walk across debris and see where you're going.

Water

After a major disaster you may not have access to clean water. It is important to store plenty of extra water, and know how to access alternative sources of water.

Alternative sources of water include:

- Melted ice cubes
- Liquid in canned vegetables
- Water stored in your water heater – To drain, first shut off the gas or electricity supply, and turn off the water intake valve. Next open the drain at the bottom of the tank and turn on a hot water faucet in your house, to let air into the system.
- Water stored in your pipes – To drain, first shut off the main water valve for your home. Next, open a faucet at the highest level in your home to let the air into the plumbing and then take water from the lowest faucet in the house.
- Water can be purified by boiling for three to five minutes.

Another Slice Of Pi

How Do I Start?

North Shore club member, **Ian McAlpine VE7FTO** is one of the Directors of The MagPi Ltd which publishes “The MagPi” each month... a community driven magazine for Raspberry Pi users. You can read the magazine online or download every issue for FREE at <http://www.themagpi.com>. Ian was also the Issue Editor for the March issue, which has just been released.

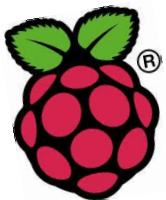


Raspberry Pi is priced low and is gaining popularity with experimenters, including the Amateur Radio community. Credit it's low price tag to advances in integrated chips. Instead of having a CPU, a GPU, a USB controller, and memory each on their own individual chips, Pi uses a **system-on-a-chip** with all those components on a single integrated circuit. Without a lot of chips to take up space, the Pi itself can consist of a printed circuit board which boots up from an SD memory card. So it's not just cheap, it's simple, too. But, like a 'free' dog, the \$40 average price tag is a bit misleading. You can't just buy a Raspberry Pi and expect it to work right out of the box.

Look at [eBay](#) or [Amazon](#) for your flavor of Pi. Once you have it, here are the accessories you'll need to get up and running:

- **A case.** There's no official one but there are many choices, pick one like [this pink one](#) from Adafruit. Unfortunately, despite what you may have heard, it [does not fit in an Altoids tin](#).
- **A power supply.** Raspberry Pi doesn't come with one. You'll need a 'walwart' or USB compatible cable in order to plug it into the wall.
- **A USB mouse and keyboard** How else will you interact with the Pi? Any wired or wireless mouse and keyboard should do
- **An HDMI cable or RCA video lead.** You can't use your Pi without a visual display. You can either plug it into a computer monitor using an HDMI cable, or you can plug it into an analog TV with a standard RCA composite video lead.
- **An SD memory card.** You'll need one to boot up the Pi. The Raspberry Pi foundation recommends at least 4Gb to start, but use as much as 32Gb if you want.

- **An SD memory card reader.** The Raspberry Pi doesn't need this, but your primary computer does so you can transfer installations from it to the Pi. A lot of computers come with a built-in card reader, but if yours doesn't, you might want to invest in one.



Now, let's fast-forward to the day when your Raspberry Pi and all its accessories arrive in the mail. Here's what to do, and when to do it.

Put your Raspberry Pi in its case. Unless it's very customized, it should have holes in it for all of the Pi's ports.

Put the Pi aside and go to your primary computer. You must transfer the operating system to the card. Insert your SD card and format it [according to the Foundation's directions](#). This will install a recovery program on it so you can save your card even if you break it with your tinkering.

Download NOOBS on your primary computer. Short for New Out Of Box Software, it's the Raspberry Pi Foundation's fittingly named distribution for first-time Pi users. A distro is a package installation of Linux OS and its associated software.

Load your NOOBS download onto the SD card.

Slide the SD card into the underside of the Raspberry Pi, and make sure it's oriented correctly.

Connect it to the power supply, monitor, keyboard, and mouse. Pretty straightforward.

The Raspberry Pi will boot up and take you the NOOBS screen. If it doesn't, double-check all your connections like the power supply and HDMI cables to make sure they're secure.

Select an OS to install. If you select the default Raspbian, recommended for beginners, the website at Adafruit has a great [tutorial](#) on the process. This install will take 20 minutes or so. This is a good time to go do something else. Once the file copies, you'll get a notice that says, "Image applied successfully."

Press return, and the Pi will reboot. Now it will boot into the OS graphical user interface, which looks a lot like Windows 98.

To see what a Pi is capable of, have a look at URL: https://www.youtube.com/watch?feature=player_embedded&v=_cviTxswW8c



Tech Talk

Dave Hottell AB9CA

An Inexpensive 2-Element Foxhunt Quad

Reprinted with permission

This is an original design. I did not lift it from any source, but rather started with a blank screen using EZNEC v3. My goal was to optimize the front-to-back ratio. I wanted to get a deep null off the back. The finished antenna appears to do that.

The dimensions of the 2 element fox hunt quad:

	Circumference	Each Side
Driven element	86"	21.5"
Reflector	88.75"	22.1875" (22 3/16")

Spacing - Driven element to Reflector: 12"

Wire: #10 bare copper

Note that the dimensions shown are finished sizes - you'll need to add whatever overlap is needed to secure the element ends. As the photos show, I used plastic pipe for the boom and other supporting members. Cheap, readily available, and seems to work well.

Modeling indicates that even small changes to the dimensions can have a meaningful impact, so the antenna needs to be built to fairly close tolerances. I built mine to +/- 1/4" ea. leg, and it works about as the model indicates.

I would suggest that you **not** change the wire size. Quads are sensitive to most everything and this includes wire size. Also, use only bare wire, do not use insulated wire. That would change the effective length of the elements and severely distort the pattern.



You will, for sure, want to include the choke shown in the photo. Without that, stray current on the outside of the feedline will significantly distort the pattern.



If it is to be used for transmitting as well, the dimensions of the gamma match are approx. 1" x 8". #10 wire is used. The value of the trimmer cap is not known - it is from my junk box. Best guess is that it is a 10-50 pf trimmer. I added it to get a sufficiently low SWR should I want to use the antenna for transmitting.

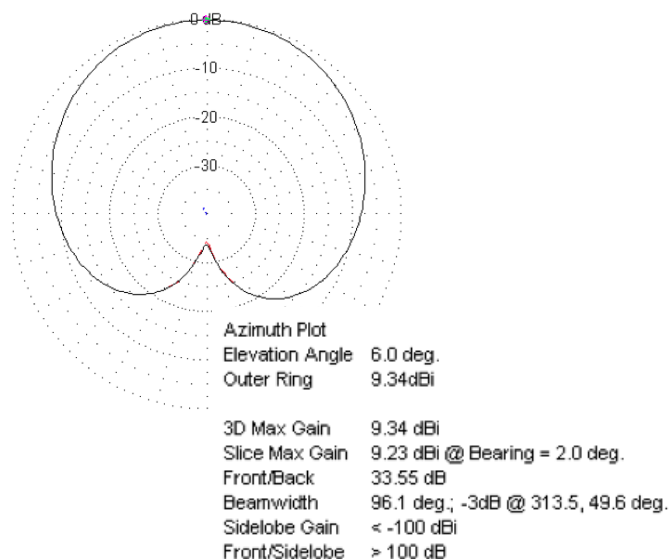
The radiation pattern shows a front-to-back ratio of about 34 dB, and this seems to be pretty close. I've not measured anything greater than about 27 dB. 2m is plagued with reflections, which tend to fill in the nulls, and it is difficult eliminate their influence, hence, deep nulls are hard to find on 2m.

The boom passes through a T-fitting and is secured by hose clamps. This allows the antenna to be rotated from vertical polarization to horizontal should it be necessary to locate a horizontally polarized transmitter.

For fox hunting, using the main lobe, off the front, seems to work better than using the null, off the back, most of the time. Although the front lobe is somewhat broad, the use of an attenuator to get the signal down to the noise will yield a very good bearing on the transmitter.

And, if you'd like to know more about antennas, I would direct you to the website of L. B. Cebik, W4RNL, at URL <http://www.cebik.com/radio.html>, where you will find lots and lots of antenna info. While I doubt you'll find this exact antenna on his site, you will find a treasure trove of antenna info.

Figure 1. Radiation Pattern





RAC News

Radio Amateurs of Canada

RAC Bulletin 2014-008E - Industry Canada Rolls Out New Amateur Radio Exam Generator and Updated Question Bank

2014-03-06

On March 6th, Industry Canada released a new set of amateur radio exam questions based on recommendations made by RAC and launched a new exam generator.

"This is good news that we were eagerly anticipating," says Geoff Bawden, VE4BAW, President of RAC. "We were pleased to work with IC on this issue of significant importance to amateur radio operators and RAC will continue to work with Industry Canada to provide Canadian radio amateurs with the best possible circumstances to pursue their hobby."

The new exam generator can be accessed at the following URL: http://www.ic.gc.ca/eic/site/025.nsf/eng/h_00040.html

Background:

In December of 2012 Industry Canada put out a Request For Proposals (RFP) to update the amateur radio question bank used for examinations to qualify radio amateurs. RAC provided a proposal and subsequently entered into a contract with Industry Canada in January 2013 to update the amateur radio question bank. RAQI was engaged by RAC to collaborate on the French language component of the contract.

The review team examined more than 3000 questions and 12000 answers used for the Basic and Advanced examinations in English and French and aimed for perfection in every one. Technical and linguistic accuracy were equally important in the review. Changes included correcting factual errors, replacing obsolete language and examples, making questions and answers clearer and ensuring that questions addressed current amateur radio practices and regulations. The team accomplished most changes through the editing of existing questions but also recommended that obsolete questions be deleted and new questions added. Comments from radio amateurs in response to the RAC bulletins on the question bank review aided the team in identifying where changes were needed.

On March 13, 2013, Radio Amateurs of Canada completed its work and delivered a comprehensive and detailed set of recommendations to Industry Canada.

Transition:

Now that Industry Canada has implemented the updated question banks, RAC will prepare information identifying where changes have been made to assist instructors in modifying their course materials and examiners in preparing for the change. As has been mentioned in previous bulletins, the curriculum has not been changed. The topics addressed in the exams and consequently in courses and educational material remain the same. The changed questions are clearer, more accurate, more understandable and more relevant to modern amateur radio. Francophones should immediately see a significant improvement in the French language questions.

"RAC put a great deal of effort and expertise in working with IC to update the question banks and looks forward to competing for contracts on significant projects related to amateur radio if the opportunity presents itself in the future," stated Glenn MacDonell, VE3XRA, Vice-President and Regulatory Affairs Officer.

SARC Contest Calendar for Q2 2014

Dates	Contest	Modes
May 24-25	CQ WW WPX Contest	CW
June 28-29	ARRL Field Day	All

The SARC Calendar ...places to be in Surrey for Amateur Radio in the month ahead

April 2014						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	31	1	2 1872: Samuel Morse dies in New York at age 80	3	4 Weekly SARC Breakfast 8:00 Kalmar Family Restaurant 81 st & King George Blvd.	5
6 1852: Word 'Telegram' first used. Albany Evening Journal, England	7	8 SEPAR NET 7:30 SARC NET 8:00	9 SARC General Meeting @ 19:00 Provincial Regional Emergency Ops Ctr (PREOC) 14275 96th Ave. Surrey	10 1833: Gauss & Weber's 1st telegraph message, 3Km at 6wpm	11 Weekly SARC Breakfast 8:00	12 Contest: CQ MM DX Contest (CW)
13 Contest: CQ MM DX Contest (CW)	14	15 SEPAR NET 7:30 SARC NET 8:00	16 Raspberry Pi Meeting @ 18:30 fraservalleypiraspberry.wordpress.com	17	18 Weekly SARC Breakfast 8:00 Celebrate World Amateur Radio Day	19
20 Contest: ARRL	21	22 SEPAR NET 7:30 SARC NET 8:00	23 SARC Exec Meeting	24	25 Weekly SARC Breakfast 8:00	26
27 Vancouver SunRun sunrun.bcwarnet.net	28	29 SEPAR NET 7:30 SARC NET 8:00	30 S	1	2	3

For details on all SARC events, go to ve7sar.net

For details on all SEPARS events, go to separ.shutterfly.com/calendar

Contest Details: <http://hornucopia.com/contestcal/contestcal.html>



World Amateur Radio Day April 18

Amateur Radio: Your Gateway to Wireless Communication

World Amateur Radio Day is celebrated each year on April 18 in recognition of the anniversary of the founding of the IARU in Paris in 1925

At the IARU Administrative Council meeting in September 2013, the theme 'Amateur Radio: Your Gateway to Wireless Communication' was adopted by the Council for World Amateur Radio Day, Friday, April 18, 2014.

Amateur radio has truly entered the 21st Century. In less than 100 years amateur radio communications has evolved from crude spark-gap technology to digital signal processing and software-defined radios. The amateur's HF choice between voice and CW has been expanded to a broad range of communication choices from television to spread spectrum.

Amateur digital communications has evolved. At the end of World War II until the early 1980's, radioteletype, also known as RTTY, was the only HF digital mode available to amateurs. In the 1980's, AMTOR made its debut along with the increased popularity and availability of personal computers. AMTOR was the first amateur digital communication mode to offer error-free text transmission.

From the early 1980's, the rate of change increased dramatically. Packet Radio emerged and for a period of time was the most popular form of amateur digital communication. As microprocessor technology became more sophisticated, there was a rise in modes such as Clover, PACTOR, and G-TOR that were capable of error-free exchanges under marginal band conditions. In the late 1990's, there was an invention that harnessed personal computer technology to create PSK31.

In the VHF-UHF frequency ranges, Packet Radio had less activity at the close of the century than it did in the 1980's and 1990's. However, Packet Radio was reborn as the popular Automatic Packet Reporting System (APRS) and traditional packet systems still exist to support public service activities with greatly enhanced functionality.

Thanks to individual amateurs, hams now enjoy digital meteor scatter contacts and even moonbounce on VHF and UHF frequencies with modest stations. An ordinary computer sound device and software that can be downloaded free from the internet is all that is needed.

The Japan Amateur Radio League developed the D-STAR digital voice and data standard and there has been significant amateur growth as amateurs establish D-STAR repeater networks on the VHF, UHF and microwave bands.

All of these development have inspired amateurs around the world to experiment in their own HF, VHF, UHF and microwave band digital communication.

Activities on the occasion of World Amateur Radio Day can be a great opportunity to spread the word about what the "hams" are doing in the 21st Century. This year, April 18 is a weekday. However, that doesn't prevent the public activity from taking place on the weekend after April 18. The idea is to gain as much exposure and publicity for amateur radio as possible.

WARD 2014 is an opportunity for amateurs to give presentations about ham radio to such groups as civic organizations, charitable groups, etc. For example, Rotary Clubs and Lions Clubs are only two of many worldwide organizations who have weekly meetings and these organizations are always looking for interesting and informative programs to present to their membership. There are very few experienced hams who can't talk for 15 or 20 minutes about ham radio in a positive fashion. Don't make the talk too technical. Stress the fun aspects of ham radio and the opportunity to assist in times of disaster. Keep the presentation to about 20 minutes to allow time for questions.

Amateurs can also show their expertise in digital and wireless communications, to those in the community who have "wireless communication" interests, but haven't considered the association with Amateur Radio.

Source: IARU

ARDF Video: How The Pro's Do It



Gary Pearce KN4AQ shows what's involved in Amateur Radio Direction Finding (ARDF)

ARDF - Amateur Radio Direction Finding - is the European style on-foot version of Fox Hunting. This program, from the ARVN vault, is the 2006 USA ARDF Championship that qualified hams for the world ARDF event that year. Don't worry about "2006," this isn't all about results. It's about the people, the techniques and the equipment involved in this fascinating aspect of ham radio.

Watch HamRadioNow [Episode 134: ARDF](#)

Vancouver Sun Run April 27, 2014 Amateur Radio Volunteers Needed



Once again we are seeking volunteers from the Amateur Radio community to provide communications for the Vancouver Sun Run which takes place on Sunday, April 27, 2014. This is a tremendous opportunity to showcase the capabilities of Amateur Radio to the community, support an outstanding event, provide a valued community service and as a bonus you receive a very cool Sun Run 2014 T-shirt!

As in prior years, an on-line registration website is available for registration of volunteers. The website is now available for registration at: <http://sunrun.bcwarnet.net>. Registration is simple and straightforward process. The registration form is used to provide up-to-date contact information, your first and second preference for course position and your T-shirt size. Wherever possible we will accommodate your stated preferences for positions around the course, however we reserve the right to assign you to positions as required ensuring adequate coverage of the event. In addition to registration each volunteer will be required to sign a waiver form. Liability insurance is again being provided by the Sun Run organizers.

An important addition for this year is a revised procedure for the handling of lost children. It will be extremely important for all volunteers to read, understand and know how to execute this procedure. This procedure will be made available in a subsequent email to those who register as volunteers for the event.

As in prior years, when you register an email will be sent to you immediately to confirm your registration. If you do not receive the email immediately, please check the email address you registered to ensure it is correct. Just prior to the event an additional email will be sent confirming the actual position you have been assigned and will include maps and radio procedures, including frequencies to be used during the event.

The Sun Run is a fun event and has traditionally benefited from tremendous support from the local Amateur Radio community. On behalf of the organizing committee, thank you for your continued support of the Vancouver Sun Run and we'll look forward to your support and participation April 27th.



QRT...

John Brodie VA7XB

The Annual SARC Foxhunt

In keeping with the theme of SARC's annual event on May 10th and this month's Communicator, we'll say a few words about Foxhunting, or Radio Direction Finding (RDF) as it's sometimes called. For SARC, the main focus of Foxhunting has always been constructing equipment such as directional antennas and attenuators and connecting them to a 2 m radio for the enjoyment of a competition in the outdoors. For others, RDF may be about techniques for hunting down unlicensed transmitters or rogue sources of RF interference such as powerlines, grow-ops or malfunctioning devices in the neighbourhood. Practice with the former may lead to expertise in the latter - so think of foxhunting as a fun activity with a practical side. SARC's foxhunt is always held in May and, if the weather cooperates, it provides an opportunity to get out in pleasant surroundings and sunshine with other family members for a couple of hours on a Saturday morning. SARC's Foxhunt will conclude with a BBQ organized by Anton VE7SSD.

The most popular antenna for many years has been the tape-measure beam, the design of which can be found on the Internet:

http://theleggios.net/wb2hol/projects/rdf/tape_bm.htm

This beam is lightweight, portable, robust and provides a strong front-to-back ratio, with a sharp null off the back. It's cheap to make too, using materials found at your local hardware store. Many chose to stick with the tried-and-true but others may enjoy experimenting with new and novel designs.

Last year, as an experiment several members constructed a directional loop antenna, which has the advantage of even smaller size and weight than the beam. A supplementary project was the offset attenuator which required assembling a kit: see <http://www.homingin.com/joek0ov/offatten.html/>. In practice however, a common complaint was the bi-directional nature of the loop's reception and its inability to provide well-defined bearing especially with reflections off nearby objects. After a short trial with disappointing results, some members quickly abandoned the loop and went back to their yagis, reporting much better results.

This year at least one of our members is constructing a TDOA (time-difference-of-arrival) antenna, which

operates on a entirely different principle. A discussion of the TDOA is found on a U-tube video:

<http://hackaday.com/2014/03/04/tdoa-time-difference-of-arrival-directional-antenna/>. The TDOA antenna relies on the phase difference that occurs when 2 antennas are a different distance from the transmitter; the user listens for a null in the signal, indicating that the transmitter is the same distance from each antenna, which indicates that the direction of the transmitter is perpendicular to the plane of the 2 antennas. Because two opposite directions fulfill this condition, the user generally moves off to another spot and repeats the process thereby using triangulation to confirm the correct bearing. An apparent advantage of the TDOA antenna is that it is not susceptible to overload by strong signals when you get close to the transmitter; therefore you don't need an attenuator. However, neither does it tell you how close you are to the quarry. If you would like to construct a TDOA here are some references to get you started:

A PIC-based TDOA DF Antenna Unit (Now with an audible field strength meter) by KA7OEI:

http://www.ka7oei.com/PIC_tdoa.html

A TDOA Antenna Unit for Fox-Hunting:

<http://www.146970.com/PDFs/TDOA%20Phasenpeiler.pdf>

Simple Time-Difference-of-Arrival RDF by Joe Leggio WB2HOL:

<http://theleggios.net/wb2hol/projects/rdf/tdoa1.htm>

For a discussion of TDOA and more conventional methods, check out: <http://www.homingin.com/equipment.html>

The same as in past years, the foxes will be provided and placed in the field by Amel VA7KBA and Les Tocko VA7OM of BC Radiosport. Amel and Les will also be demonstrating the use of 80 m foxes for comparison with the 2m experience.

Happy hunting!

